Category : **Respiratory: ARDS**

A83 - *Pulmonary artery systolic pressure at admission predicts icu mortality in elderly critically ill with severe covid-19 pneumonia*

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Introduction:
Point-of-care ultrasound (POCUS) is a useful diagnostic tool in noninvasive assessment of critically ill patients. Mortality of especially elderly patients with COVID-19 pneumonia is high and there is still scarcity of definitive predictors. Aim of our study was to assess the prediction value of combined lung and heart POCUS data on mortality of elderly critically ill patients with severe COVID-19 pneumonia.

Methods:
Data of patients older than 70 years, with severe COVID-19 pneumonia admitted to 22-bed mixed ICU, level 3, was analysed retrospectively. POCUS was performed on all admitted patients; our parameters of interest were pulmonary artery systolic pressure (PAPs) and diffuse B-line lung pattern (B-pattern).

Results:
116 patients (average age 77±5 years) were included. Average length of ICU stay was 10.7±8.9 days. High-flow oxygenation, non-invasive ventilation and invasive mechanical ventilation were at some point used to support 36/116, 39/116 and 75/116 patients respectively. ICU mortality was 59/116 (50.9%). ICU stay was shorter in survivors (8.8±8.3 vs 12.6±9.3 days, p=0.02).
PAPs was lower in ICU survivors (32.5±9.8 vs. 40.4±14.3 mmHg, p=0.024). B-pattern was more often detected in non-survivals (35/24 (59%) vs. 19/38 (33%), p=0.005). PAPs and B-pattern were both univariate predictors of mortality. PAPs was an independent predictor of ICU mortality (OR 1.0683, 95%CI: 1.0108-1.1291, p=0.02).

Conclusion:
PAPs at admission is an independent predictor of ICU mortality of elderly patients with severe COVID-19 pneumonia.

Table:

Variable	All (n=116)	ICU survivors (n=58)	ICU non-survivors (n=59)	p-value
PAPs, mmHg	36.7±12.9	32.5±9.8	40.4±14.3	0.024
B-pattern, n (%)	54(47)	19(33)	35(59)	0.005
Logistic regression	OR	95%CI	p-value	
PAPs - univariate	1.0680	1.0071-1.1326	0.028	
B-pattern - univariate	2.9167	1.3681-6.2182	0.006	
PAPs - multivariate	1.0683	1.0108-1.1291	0.02	
B-pattern - multivariate	2.8125	0.8258-9.5788	0.10	

B-pattern: Diffuse B-line lung pattern, CI: Confidence interval, ICU: Intensive care unit, OR: Odds ratio, PAPs: Pulmonary artery systolic pressure